

AMENDMENTS TO THE ABSTRACT

Please replace the abstract with the following:

A receiver ~~structure~~ for improving the performance of conventional Discrete Multitone Modulation (DMT) based Asymmetric Digital Subscriber Line (ADSL) modems, ~~particularly~~ in the presence of noise and/or interference. A ~~conventional~~ demodulator having an FFT followed by a single-tap-per-bin frequency-domain equalizer is augmented by an additional data-path utilizing windowing or pulse shaping. Windowing is done independently for each symbol over the orthogonality interval and ~~can be carried out~~ efficiently in the time domain or frequency domain. A decision feedback equalizer ~~is used~~ at the output of the windowed data-path cancels ~~to cancel~~ inter-bin-interference created by windowing. ~~Windowing is most effective against narrowband interference (NBI) and other conditions which lead to diminished orthogonality between bins such as inadequate channel shortening in ADSL, symbol timing offset and jitter. Limited performance gains may also be achieved in the presence of crosstalk with strong spectral coloration. The overall technique is potentially also applicable to other DMT based modems such as VDSL and wireless OFDM. The receiver does not require changes to be made to the transmitter.~~